

**ABSTRACT**

5 Methods, compositions and kits are provided for treating cancer associated with protein tyrosine kinase activity such as chronic myelogenous leukemia. In particular, a treatment method is provided comprising: administering to a patient having chronic myelogenous leukemia and a degree of resistance to imatinib mesylate, a therapeutically effective amount of a DNA methylation inhibitor which mitigates the imatinib mesylate resistance.